





ABOUT THE EZ HUB 10/100

SMC5612DS, SMC5624DS

SMC's EZ Hub™ 10/100 repeaters provide either 12 or 24 ports for 10 Mbps Ethernet or 100 Mbps Fast Ethernet connections. Use these plug and play hubs in a 10BASE-T network and, when you need additional bandwidth, connect as many ports as necessary to 100BASE-TX devices. These dual-speed hubs contain two internal repeater buses, one for 10 Mbps traffic and the other for 100 Mbps traffic.

An internal Ethernet/Fast Ethernet switch, consisting of a 10 Mbps port and a 100 Mbps port, is used to link the two repeater buses, and learns the MAC address of each connected device. Data will be forwarded across this switch if traffic must be passed between 10 Mbps and 100 Mbps devices, a destination MAC address is not found in the address table, or broadcast traffic is sent.

These hubs provide a low-cost connection between 10 Mbps and 100 Mbps networks, and the comprehensive LED display panel provides a friendly interface that simplifies installation and network troubleshooting.

Front Panel

Ports and Daisy-Chain Button

All the RJ-45 connectors and the daisy-chain button are located on the front panel of these hubs. Ports 2 through 12 on the SMC5612DS hub, and ports 2 through 24 on the SMC5624DS hub, are labeled with an “X” to indicate that they have a built-in crossover. PCs can be connected to these ports with straight-through cable. The daisy-chain push-button switch is used to enable and disable the crossover on Port 1 of each hub.

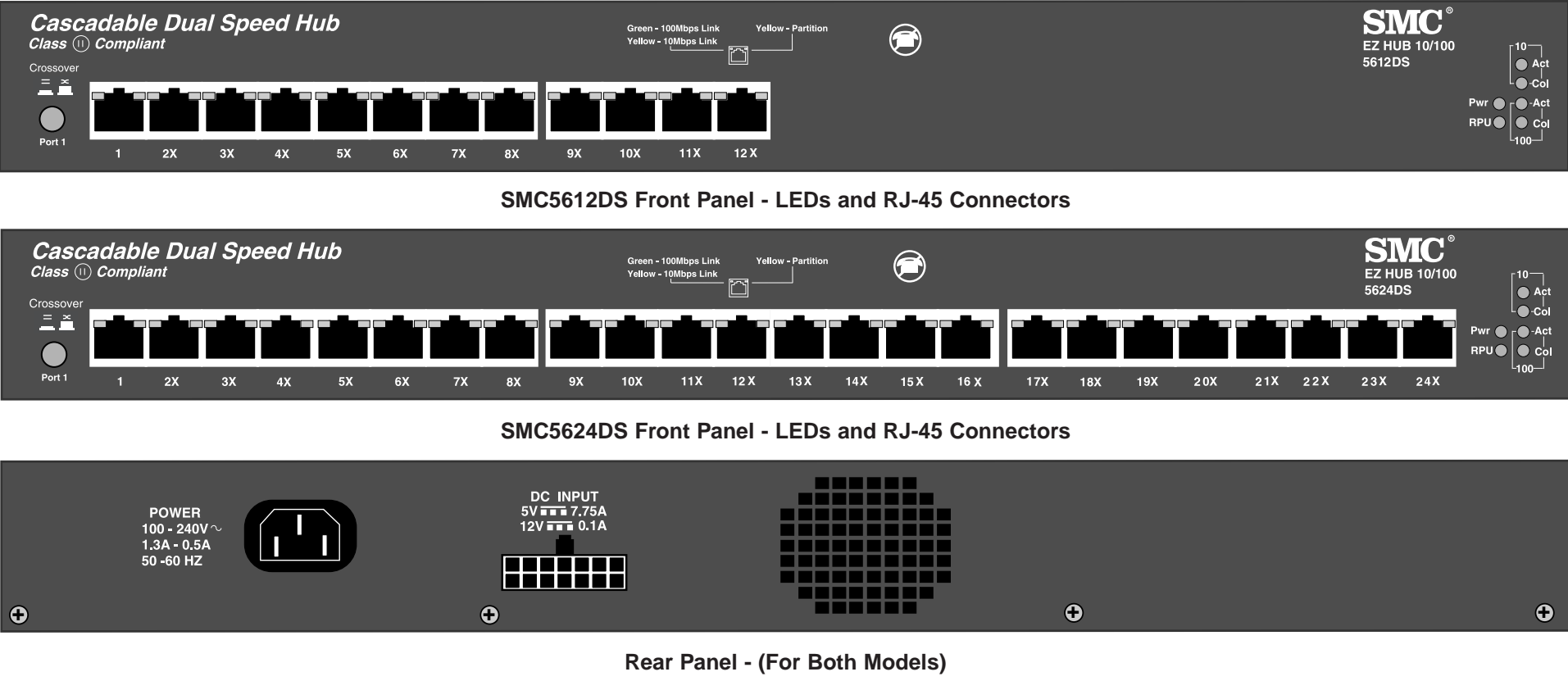
Status LEDs are also located on the front panel for easy viewing. The functions of the LEDs are described in the tables below.

Power Supply Status LEDs		
LED Condition		Status
Pwr (Power)	RPU	
Off	Off	No power
Green	Off	Internal power supply is operating properly; RPU not connected
Green	Green	Both internal and redundant power supplies are operating properly
Red	Off	Internal power supply has failed; RPU not connected
		Internal power supply functioning; RPU failed
		Internal power supply functioning; RPU connected, but not receiving power
Red	Green	Internal power supply has failed; device is being powered by redundant power supply

Port and Segment Status LEDs		
LEDs	Condition	Status
Integrated LEDs	Link	
		Off
		Yellow
		Green
	Partition	Off
		Yellow
Act (Activity)	Green (flashing)	There is traffic (activity) present on the segment
Col (Collision)	Yellow (flashing)	A collision has been detected (i.e., the hub is receiving data from two or more nodes simultaneously)

Rear Panel

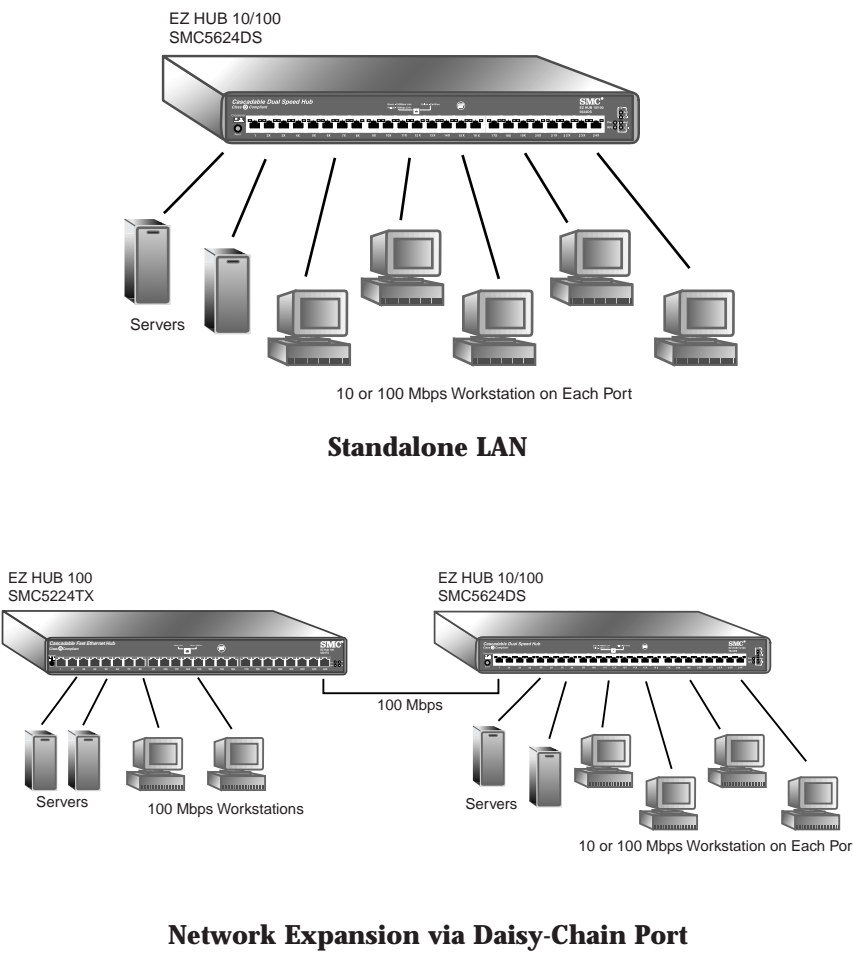
The power receptacle and DC input connector for the optional Redundant Power Unit (SMC-RPUX1 or SMC-RPUX5) are located on the rear panel of these hubs.



- Features and Benefits
- ◆ Low cost of ownership
  - ◆ ANSI/IEEE 802.3, 802.3u compliance ensures compatibility with standards-based hubs, switches and network cards from any vendor
  - ◆ Easy integration of Ethernet and Fast Ethernet LANs
  - ◆ 12 or 24 dual-speed ports for easy connectivity to 10BASE-T and 100BASE-TX devices
  - ◆ Plug and play—no software to load or configure
  - ◆ Desktop or rack-mountable
  - ◆ Comprehensive array of LEDs to display hub activity and port status information
  - ◆ Self-diagnostic test upon power on
  - ◆ Automatic partitioning and reconnection to minimize network downtime
  - ◆ Cascadable Class II Fast Ethernet repeater
  - ◆ Daisy-chain port for easy hub or switch connection
  - ◆ Optional Redundant Power Unit (attached to a separate circuit) minimizes downtime in the event of an AC power failure

SAMPLE APPLICATIONS

Some typical applications for the EZ Hub 10/100, models SMC5612DS and SMC5624DS, are illustrated below:



INSTALLING THE HUBS

The EZ Hub 10/100 unit can be placed on a desktop or shelf or installed in a standard 19-inch equipment rack.

Equipment Checklist

After unpacking your EZ Hub 10/100 carton, check the contents to be sure you've received the following components:

- One EZ Hub 10/100 repeater
  - SMC5612DS - 12 dual-speed RJ-45 ports or;
  - SMC5624DS - 24 dual-speed RJ-45 ports
- Appropriate Power Cord
- Rack-Mount Kit
- Four Adhesive Feet
- SMC Warranty Registration Card
- This User Guide

Selecting a Site

Be sure to follow the site selection guidelines below when choosing a location:

- ◆ Select a suitable location for the hub:
  - It should be accessible for installing, cabling, and maintaining the hub.
  - The temperature and humidity should be within the ranges listed in the specifications, out of direct sunlight, and away from heat sources or areas with high amounts of electromagnetic interference.
  - The status LEDs should be clearly visible.
  - There should be adequate space (recommended minimum of two inches) on all sides for proper air flow.
- ◆ Before rack mounting the hub, pay particular attention to the following factors:
  - *Temperature:* Since the temperature within a rack assembly may be higher than the ambient room temperature, check that the rack-environment temperature is within the specified operating temperature range.
  - *Mechanical Loading:* Do not place any equipment directly on top of a rack-mounted hub.
  - *Circuit Overloading:* Be sure that the electrical supply circuit to the rack assembly is not overloaded.
  - *Grounding:* Rack-mounted equipment should be properly grounded. Particular attention should be given to supply connections other than direct connections to AC power mains.

- ◆ Make sure twisted-pair cable is always routed away from power lines, fluorescent lighting fixtures and other sources of electrical interference, such as radios, transmitters, etc.
- ◆ Make sure that a properly grounded power outlet is within 8 feet (2.44 m) of the hub. The power supply automatically detects the input voltage level. As with any equipment, using a filter or surge suppressor is recommended.

Operating Instructions

1. **Positioning the Hub:** For desktop or shelf mounting, attach the four adhesive feet to the bottom of the hub. For rack-mounting, attach the mounting brackets on both sides of the hub with the screws provided, and install the hub in the rack.
2. **Applying Power:** Plug one end of the power cable into the power receptacle at the back of the hub, and the other end into an appropriate electrical outlet. Check the Power LED to be sure power is on.

**Note:** It is not necessary to power off the hub before connecting or disconnecting any UTP cables, as these actions *will not* disrupt the operation of other devices attached to the hub.
3. **Connecting PCs:** Connect each PC to an RJ-45 port on the hub with a straight-through twisted-pair cable segment, maximum 100 meters (328 ft.). The EZ Hub 10/100 hub will support 12 or 24 PCs, depending on the model. However, before connecting Port 1 to a PC, be sure to enable the crossover. For the type of UTP wiring to be used, refer to the Crossover/Straight-Through Wiring Requirements table under “Connectivity Guidelines.”
4. **Cascading Hubs and Other Network Devices:** If you need more ports, connect a crossover port on another device to the daisy-chain port, Port 1, on the hub with straight-through twisted-pair cable, maximum 100 meters (328 ft.). For further information refer to Connectivity Guidelines.

When cascading Ethernet hubs, be sure to refer to the **SMC 5 - 4 Rule**, shown below.

The SMC 5 - 4 Rule for 10BASE-T Ethernet
Between any two PCs or other stations in the same 10BASE-T collision domain, there may be: <ul style="list-style-type: none"><li>• up to 5 link segments in series,</li><li>• up to 4 repeaters (hubs)</li></ul>

When making Fast Ethernet connections, remember that only two hubs can be cascaded, and that the diameter is limited to a maximum of 205 meters (672.4 ft.). Refer to the **SMC 3 - 2 Rule**, shown below.

The SMC 3 - 2 Rule for 100BASE-TX Fast Ethernet
Between any two PCs or other stations in the same 100BASE-TX collision domain, there may be: <ul style="list-style-type: none"><li>• up to 3 link segments and,</li><li>• up to 2 Class II repeaters (hubs)</li></ul>

TROUBLESHOOTING

Symptom

Link LED does not light after connection is made.

Probable Causes

Hub port, network card or cable may be defective.

Possible Solutions

- Check that hub and attached device are both powered on.
- Be sure the network cable is connected to both devices.
- Verify that the proper cable type is used and that its length does not exceed specified limits.
- Check the network card and cable connections for defects.
- Replace the defective card or cable if necessary.

Symptom

Partition LED is on (yellow).

Probable Causes

A line error or an excess number of collisions have been detected on the segment.

Possible Solutions

- Port is reconnected automatically when problem is corrected or valid data is received.